

Claims.

1. An electrically powered toothbrush comprising a head which supports a bristle carrier, the head being connected to or connectable to a grip handle, the bristle carrier
5 being moveable by an electric motor in the toothbrush to provide a cleaning effect, and incorporating an electric power supply which comprises a capacitor capable of containing sufficient electric charge to drive the motor for a tooth cleaning session,
in combination with a charging unit which incorporates an electricity supply comprising one or more replaceable or rechargeable battery cell, and having an
10 electrical connection means connectable to a corresponding connection on the toothbrush to enable electrical connection between the capacitor and the charging station, and with which the toothbrush may be connected.
2. A combination according to claim 1 wherein the capacitor provide electric
15 power sufficient to drive the motor for a tooth cleaning session of two minutes or more.
3. A combination according to claim 1 or 2 wherein the capacitor is capable of delivering 0.6W electric power for the tooth cleaning session.
20
4. A combination according to claim 1, 2 or 3 wherein the capacitor has a capacity of 15 - 50 Farad.
5. A combination according to claim 4 wherein the capacitor has a capacity of 16
25 - 22 Farad.
6. A combination according to claim 3, 4 or 5 wherein the capacitor has a working output voltage of 1-5 - 3V.
- 30 7. A combination according to any one of claims 1 to 6 wherein the capacitor is an electrochemical double layer capacitor.
8. A combination according to any one of the preceding claims wherein the toothbrush incorporates an electric power supply which comprises a single capacitor.

9. A combination according to any one of the preceding claims, wherein the charging unit is adapted to apply a voltage V1 to the capacitor when the toothbrush is connected to the unit, and means to temporarily apply a voltage V2 higher than V1 to
5 the capacitor.

10. A combination according to claim 9 wherein voltage V1 is equal to or above the charging input voltage of the capacitor.

10 11. A combination according to claims 9 or 10 wherein the capacitor can be charged and maintained charged by the voltage V1.

12. A combination according to any one of claims 9 to 11 wherein V1 is 2 - 3 volts.
15

13. A combination according to any one of claims 9 to 12 wherein V2 is 3 - 4 volts.

14. A combination according to any one of claims 9 to 13 adapted that voltage V2
20 may be applied for 10 seconds or less.

15. A combination according to any one of claims 9 to 14 wherein the charging unit is constructed to connect the capacitor to a first number of replaceable cells to apply V1, then to a second, larger, number of replaceable cells to apply V2.
25

16. A combination according to any one of claims 9 to 15 wherein the charging unit or toothbrush includes a resistor in series with the replaceable or rechargeable cells when they deliver V1.

30 17. A combination according to any one of claims 9 to 14 wherein the charging unit is constructed to be connected to the electricity mains so as to derive charging and boost voltages V1 and V2 from the mains supply.

18. A combination according to any one of claims 9 to 17 wherein the charging unit incorporates a biased switch which is operated by the user against the bias to apply the voltage V2, then when the user ceases to operate the switch the bias disconnects the voltage V2.

5

19. A combination according to any one of claims 9 to 18 wherein the toothbrush includes circuitry to discharge the capacitor if it is left charged at V2 and not used.

20. An electrically powered toothbrush comprising a head which supports a bristle carrier, the head being connected to or connectable to a grip handle, the bristle carrier being moveable by an electric motor in the toothbrush to provide a cleaning effect, and incorporating an electric power supply which comprises a rechargeable electricity storage means capable of being charged with sufficient electric charge to drive the motor for one tooth cleaning session during a charging period of five minutes or less,

in combination with a charging unit which incorporates an electricity supply comprising one or more replaceable or rechargeable battery cell, and having an electrical connection means connectable to a corresponding connection on the toothbrush to enable electrical connection between the rechargeable electricity storage means and the charging station, and with which the toothbrush may be connected.

21. A combination according to claim 20 wherein the rechargeable electricity storage means comprises one or more NiCd rechargeable battery cell.

22. A combination according to any one of the preceding claims wherein the motor is connected to the bristle carrier by a transmission mean which causes the bristle carrier to move in a motion in which the bristle carrier moves reciprocally along a reciprocation axis, and simultaneously performs oscillatory rotation about the reciprocation axis as a rotation axis.

30

23. A charging unit for a combination as claimed in any one of the preceding claims.

24. An electrically powered toothbrush comprising a head which supports a bristle carrier, the head being connected to or connectable to a grip handle, the bristle carrier being moveable by an electric motor in the toothbrush to provide a cleaning effect, and incorporating an electric power supply which comprises a capacitor with a
5 capacity of 15 - 50 Farad capable of containing sufficient electric charge to drive the motor for a tooth cleaning session.

25. A toothbrush according to claim 24 wherein the motor is connected to the bristle carrier by a transmission mean which causes the bristle carrier to move in a
10 motion in which the bristle carrier moves reciprocally along a reciprocation axis, and simultaneously performs oscillatory rotation about the reciprocation axis as a rotation axis.